

REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of September 2, 2009 (Office Action). As this response is timely filed within the three-month statutory period, no fee is believed due. The Office is expressly authorized, however, to charge any deficiency or credit any over-payment to Deposit Account No. 14-1437.

Claims Rejections – 35 USC § 103

In the Office Action, Claims 1, 3-5, 8-9, and 23-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto, *et al.*, "Tele-Handshake through the Internet", *IEEE Workshop on Robot and Human Communication*, 1996, pages 90-95 (hereinafter Hashimoto) in view of U.S. Patent 7,036,094 to Cohen, *et al.* (hereinafter Cohen). Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto in view of Cohen, and further in view of Oakley, *et al.*, "Contact IM: Exploring Asynchronous Touch Over Distance," Proceedings of CSCW, New Orleans, USA, 16-20 November 2002 (hereinafter Oakley).

Although Applicants respectfully disagree with the rejections, Applicants have amended the Claims in an effort to even more clearly define the present invention. The claim amendments are fully supported by the original disclosure and no new matter has been introduced.

Aspects of Applicants' Invention

It may be useful at this juncture to reiterate certain aspects of Applicants' invention. One embodiment of the invention, typified by Claim 1, is a method of bi-directionally communicating physical human interactions between users over a communications network.

The method can include performing a first action on a first model by a first user located at a first interaction system, the first interaction system including one or more sensors, one or more actuators, and a first message transmission module, the first model

representing at least a portion of a human body including at least one among a human head, a human face, a human back and an entire human body, wherein the first model incorporates one or more sensors disposed at various portions or locations within or on the first model, wherein the first action of the first user includes at least one body movement of the first user and a change in facial expression of the first user, and wherein the at least one body movement and the change in facial expression are selectable by the first user through a visual interface; detecting portions or locations within or on the first model to which the first user applied force and an amount of force applied over time by each sensor, each sensor being configured to generate and send data to the first message transmission module when a force is detected, the generated data specifying a duration of the force detected, the amount of the force detected, and the portion or location within or on the first model to which the force was applied; the first message transmission module collecting and analyzing the data generated by each sensor and determining the first action intended by the first user; and the first message transmission module converting the data to markup language formatted data and encoding the data into one or more messages for transmitting the determined action over the communications network to a second interaction system, the second interaction system being communicatively linked with the first interaction system via the communications network, the second interaction system including one or more sensors, one or more actuators, and a second message transmission module.

The method also can include the second message transmission module receiving and interpreting the one or more messages by processing the markup language formatted data encoded in the one or more messages to determine the first action specified by the one or more messages; and simulating the first action by performing the first action on a second user at the second interaction system using a second model by activating one or more actuators incorporated in the second model, the second model representing at least said portion of said human body.

The method further can include performing a second action on the second model by the second user in response to the first action, wherein the second model incorporates one or more sensors disposed at various portions or locations within or on the second model; generating data from activated sensors within or on the second model specifying the second action and send the data to the second message transmission module; the second message transmission module collecting and analyzing the data generated by each of the activated sensor within or on the second model and determining the second action intended by the second user; the second message transmission module converting the data to markup language formatted data and encoding the data into one or more messages for transmitting the determined second action over the communications network to the first interaction system; and simulating the second action by performing the second action on the first user at the first interaction system using the first model, wherein the first model incorporates the one or more actuators.

See, e.g., Specification, paragraphs [0020]-[0039].

The Claims Define Over The Prior Art

The Examiner stated in the Office Action that Hashimoto does not disclose that the portion of a human body includes at least one among a human head, face, back and entire human body, wherein the action of the first user includes at least a body movement and a change in facial expression of the first user; nor does Hashimoto disclose determining the action intended by the first user.

However, the Examiner asserted in the Office Action that these features are disclosed by Cohen.

Cohen concerns behavior recognition using static gestures determined via cameras. The gestures are recorded and compared by a behavior program to identify what type of behavior is being presented. Clearly, the subject matter of Cohen has nothing to do with the subject matter of the present invention, which concerns communicating physical human interactions over a communication network, or the subject matter of Hashimoto, which concerns a tele-handshaking system. Therefore,

there is no reason for a person skilled in the art to combine Cohen with Hashimoto because neither Cohen nor Hashimoto provides any suggestion or motivation for such combination.

The Examiner further asserted that Cohen is drawn to using sensors to detect action, which are then categorized into behaviors in order to be replicated at a later date; Applicant's invention is drawn to using sensors to determine actions and then replicate them at a different machine; thus the art is analogous.

Applicants respectfully disagree. It is noted that in Cohen the gestures are used for behavior recognition in order to identify suspicious behaviors from normal behaviors, not for remote physical human interactions between users as in the present invention. Therefore, Cohen is neither in the field of applicant's endeavor nor reasonably pertinent to the particular problem with which the inventor of the present invention was concerned.

Further, even if Cohen would be combined with Hashimoto, the combination would not reach the present invention for the reasons as discussed below.

Cohen discloses in col. 16, lines 62-67 the following:

Multiple camera views can be used to further refine the identification of static gestures. The best overall match from both views would be used to define and identify the static gestures. Furthermore, the system works not just for "hand" gestures, but for any static type of gestures, including foot, limb, and full body gestures.

Cohen discloses that the static gestures can include foot, limb, and full body gestures. However, these static gestures are not a portion of a human body of a model upon which an action can be performed as in the present invention. It is noted that in the present invention, the body portion refers to what the model represents, not the human body portion itself. It is also noted that a gesture is not an action in the sense of the present invention. A gesture, especially a static gesture, does not tell what action has occurred. It is further noted that Cohen does not disclose determining the action intended by the user by collecting and analyzing data generated by each sensor in the model. In

Cohen, the gestures are viewed through camera, not determined by collecting and analyzing data generated by sensors. Finally, Cohen does not disclose that the action of the user includes at least one body movement of the user **and** a change in facial expression of the user as recited in Claims 1 and 31-32.

In order to facilitate prosecution of the instant application, Applicants have amended the claims to more specifically recite a method and system for bi-directionally communicating physical human interactions between users over a communications network, in which at least one body movement and a change in facial expression can be selected by the first user through a visual interface at the first interaction system, a first action can be performed on a first model by the first user, the first action can be detected by the sensors incorporated in the first model, data can be generated, collected, formatted and transmitted to a second interaction system where the first action can be simulated by a second model using actuators on the second user. In response to the first action, the second user can choose to perform a second action on a second model at the second interaction system and the second action will be similarly detected and transmitted to the first interaction system and be simulated on the first user. These detailed steps and interactions are not disclosed by Hashimoto in view of Cohen. Hashimoto merely discloses a handshaking system in which the users have no choice of the actions (body movements and changes in facial expression) to be performed. Also, the handshaking system of Hashimoto is not a bi-directional interaction system because after receiving a handshake, the second user does not perform an action in response. In other words, in Hashimoto the communication ends with the handshaking, whereas in the present invention the first user and the second user can continue the communication as long as they desire using different actions. For example, according to the present invention the first user may perform a first action of “pat on the back” together with a “smile on the face” and the second user receives the simulated first action and responds with a second action of “embrace” together with a “surprise on the face,” and the first user, after receiving the simulated second action, may perform a third action in response, and so on.

Cohen does not make up for the deficiencies of Hashimoto because Cohen has nothing to do with bi-directional remote physical human interaction.

Accordingly, the cited references, alone or in combination, fail to disclose or suggest each and every element of Claims 1 and 31-32. Applicants therefore respectfully submit that Claims 1 and 31-32 define over the prior art. Furthermore, as each of the remaining claims depends from Claim 1 while reciting additional features, Applicants further respectfully submit that the remaining claims likewise define over the prior art.

Applicants thus respectfully request that the claim rejections under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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